

## CHICXULUB IMPACT EJECTA IN BELIZE

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Chicxulub ejecta deposits in Belize provide the closest exposures of ejecta to the crater and the only exposures of proximal ejecta deposited in a non-aqueous environment. A quarry on Albion Island in northern Belize exposes Late Cretaceous, possibly Maastrichtian, carbonate platform sediments that were folded, eroded, and subaerially weathered prior to the deposition of coarse ejecta from Chicxulub. These ejecta deposits are composed of a basal, ~1-m-thick clay and a dolomite Spheroid Bed overlain by a ~15-m-thick coarse Diamictite Bed. Many and perhaps most of the clay spheroids are altered glass. Many dolomite spheroids have concentric layers and angular cores and are probably of accretionary lapilli origin. A slight iridium concentration (111-152 parts/trillion) was detected in the base of the Spheroid Bed. The Diamictite Bed contains ~10970 altered glass, rare shocked quartz, 3-8 m dia. boulders, and striated and polished cobbles, one with a penetrating rock chip that plastically deformed the cobble.

Chicxulub ejecta is exposed in several roadside quarries in the Cayo District of central Belize. Here, the Late Cretaceous is also represented by carbonate platform sediments. The upper surface is a highly irregular and extensively recrystallized horizon possibly representing deep karst weathering. Approximately 30 m of Diamictite overlies this horizon with a texture similar to the Diamictite Bed at the Albion quarry, but with a more diverse lithology. In three locations the Cayo Diamictites contain red clay layers with abundant polished and striated limestone pebbles and cobbles called Pook's Pebbles, several of which have penetrating rock chips and ablated surfaces. We interpret the Albion Spheroid Bed as a deposit from the impact vapor plume and the Albion and Cayo Diamictites as the result of a turbulent flow that contained debris derived from the ejecta curtain and local scouring. The polished, striated and ablated Pook's Pebbles are interpreted as high altitude ballistic ejecta.